We Claim:

1. A method for making particles from a liquid feed stock containing a pharmaceutical agent to produce particles suitable for pulmonary administration having a narrow particle size distribution comprising:

providing a feed stock comprising a pharmaceutically active agent and a solvent;

forcing said feed stock into a manifold defined between a vibratable element and a plate and forcing the feed stock through the plate, said plate comprising holes of at least one predetermined diameter, in order to produce droplets comprising a droplet size distribution wherein at least 80% of the droplets have a diameter within ± 25% of the median droplet diameter;

removing solvent from said droplets to produce particles suitable for pulmonary administration.

2. A method according to claim 1 further comprising vibrating said vibratable element in order to force said feed stock through the plate and produce droplets.

3. A method according to claim 2 wherein a piezoelectric element is coupled to said vibratable element.

4. A method according to claim 1 wherein said holes comprise a predetermined diameter of less than 30 microns.

5. A method according to claim 4 wherein said holes comprise a predetermined diameter of less than 10 microns.

6. A method according to claim 1 wherein said plate comprises holes having a first diameter of less than 30 microns and a second series of holes having a second diameter of ± 50% of said first diameter.

7. A method according to claim 6 wherein said second diameter is within ± 20% of said first diameter.

8. A method according to claim 7 wherein said first diameter is less than 10 microns.

9. A method according to claim 1 wherein said atomizer is provided with said feed stock at a feed rate of 5 ml/mn - 3500 ml/mn.

10. A method according to claim 1 wherein said particles are porous.

11. A method according to claim 1 wherein said particles comprise a MMD of less than 10 microns and a MMAD of 1 - 5 microns.

12. A method according to claim 1 wherein said particles comprise a particle size distribution wherein at least 90% of the particles have a diameter within a range of less than 4 microns.

13. A method according to claim 1 wherein at least 90% of the droplets have a diameter within ± 25% of the median droplet diameter.

14. A method according to claim 1 wherein at least 95% of the mass of the droplets have a diameter within ± 25% of the median droplet diameter.

15. A method according to any one of claims 1, 13, or 14 wherein the droplets have a diameter is within ± 15% of the median droplet diameter.

16. A method according to claim 15 wherein the droplets have a diameter within ± 8% of the median droplet diameter.

17. A method according to claim 1 wherein said solvent is removed by heating said droplets in a gas stream to produce dried particles.

18. A method according to claim 17 wherein said dried particles are collected.

19. A method for spray drying a feed stock containing a pharmaceutical agent to produce particles suitable for pulmonary administration having a narrow particle size distribution comprising:

providing a feed stock comprising a pharmaceutically active agent at a flow rate of at least 5 ml/min;

forcing said feed stock into a manifold defined between a vibratable element and a plate and forcing the feed stock through the plate, said plate comprising holes of at least one predetermined diameter, in order to produce droplets;

drying said droplets in a gas stream to produce dried particles comprising a particle size distribution wherein at least 70% of the mass of the particles have a diameter within a 4 micron range; and

collecting said dried particles.

20. A method according to claim 19 wherein the dried particles comprise a particle size distribution wherein at least 80% of the mass of the particles have a diameter within a 4 micron range.

21. A method according to claim 19 wherein the dried particles comprise a particle size distribution wherein at least 90% of the mass of the particles have a diameter within a 4 micron range.

22. A method according to any one of claims 19-21 wherein the dried particles have a diameter within a 3 micron range.

23. A method according to any one of claims 19-21 wherein the dried particles have a diameter within a 1.5 micron range.

24. A method according to claim 19 further comprising vibrating said vibratable element in order to force said feed stock through the plate and produce droplets.

25. A method according to claim 24 wherein said plate is vibrated by coupling a piezoelectric element to said plate.

26. A method according to claim 19 wherein said holes comprise a predetermined diameter of less than 30 microns.

27. A method according to claim 19 wherein said plate comprises holes having a first diameter of less than 30 microns and a second series of holes having a second diameter of ± 50% of said first diameter.

28. A method according to claim 27 wherein said second diameter is within ± 20% of said first diameter.

29. A method according to claim 28 wherein said first diameter is less than 10 microns.

30. A method according to claim 19 wherein said particles are porous.

31. A method according to claim 19 wherein said particles comprise a MMD less than 10 microns and a MMAD 1 – 5 microns.